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REMARKS

STATUS OF THE APPLICATION

The instant application was filed on April 14, 2004 and included claims 1-18. In an Office Action, claims 1-18 have been rejected under 35 U.S.C. 102(e) and 103(a). In view of the amendments to the claims and the discussion hereinafter, Applicant submits that the present application is in condition for allowance.

THE OFFICE ACTION

The Office has rejected claims 1-7, 9, and 11-18 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,602,637 ('637) to Kurasawa, et al.

The Office has also rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,602,637 ('637) to Kurasawa, et al. in view of U.S. Patent No. 3,584,758 ('758) to Moore, et al.

Finally, the Office has rejected claim 10 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,602,637 ('637) to Kurasawa, et al. in view of U.S. Patent No. 6,713,088 ('088) to Lodyga, et al.

DISCUSSION

The 35 U.S.C. 102(e) Rejection

The Office has rejected claims 1-7, 9, and 11-18 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,602,637 ('637) to Kurasawa, et al. (Please note that this rejection should have been under 35 U.S.C. 102(a), not 102(e).)

The '637 reference teaches battery cases made from polymers within the scope of those used in the present invention. The reference also teaches a laundry list of inorganic additives for the polymer that are "effective for improving rigidity, heat resistance and dimensional stability" of the polymer. The '637 reference does not teach or suggest an additive for enhancing the thermal conductivity of the polymer. The Office suggests that the silica (silicon oxide) of the laundry list of the '637 reference would inherently provide the enhanced thermal conductivity, because it is the same as one of the listed additives in the present claims. This is not accurate. Claims 1 and 18 have now been amended to include the limitation of claim 15, and thus the claims require that the mixture of polymer and thermally conductive additive has a thermal conductivity at least twice that of the polymer alone. There is no teaching in the '637 reference that the mixture should have this property, and such a property would be dependent on the amount of additive used. The '637 reference does not suggest how much inorganic additive material to add to the polymer matrix, and as such cannot inherently teach the material as presently claimed. The present claim requires that enough high conductivity additive be added to the polymer to increase its thermal conductivity to double that of the polymer alone. Therefore, this limitation is not inherently disclosed in the '637 reference. Thus the rejection of claims 1-7, 9, 11-14, and 16-18 (as currently amended) under 35 U.S.C. 102(e) is untenable and withdrawal thereof is requested.

The 35 U.S.C. 103(a) Rejections

The Office has rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,602,637 ('637) to Kurasawa, et al. in view of U.S. Patent No. 3,584,758 ('758) to Moore, et al.

The Office has also rejected claim 10 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,602,637 ('637) to Kurasawa, et al. in view of U.S. Patent No. 6,713,088 ('088) to Lodyga, et al.

As discussed above, the '637 reference does not teach or suggest forming a battery case from a polymer to which a sufficient amount of thermally conductive, electrically resistive material has been added to impart the mixture with a thermal conductivity at least twice that of the polymer alone. The '758 reference does not make up for this and merely suggests that two and/or three dimensional structural additives may be added to polymers to from which battery boxes (not cases) may be made. It should further be noted that battery boxes hold batteries which are already in battery cases. Thus a battery box is not subject to the battery chemistry and/or internal thermal stresses. In any event, the '758 reference does not, alone or in combination with the '637 reference, teach or suggest making a battery case using a thermally conductive polymer having the enhanced conductivity properties claimed in claims 1 and 18, and as such the combination does not teach or suggest claim 8 which depends from allowable claim 1. Applicants request that this rejection be withdrawn.

The '088 reference teaches that boron nitride is a known additive for encapsulation polymers used in the semiconductor industry or to form low viscosity thermosetting

adhesives or in formulating cosmetic materials. The properties of boron nitride which are useful are its low electrical conductivity, its high thermal conductivity and its lubricity. Thus the Office suggests that boron nitride can be substituted for any of the other fillers of the '637 reference, since they are all known fillers for polymers. This, however is too broad of a generalization. The fillers of the '637 reference are "effective for improving rigidity, heat resistance and dimensional stability" of the polymer. Neither the '637 reference nor the '088 reference teaches or suggests that boron nitride is known to be "effective for improving rigidity, heat resistance and dimensional stability" of the polymer. One of ordinary skill in the art, given these two references, would not have looked to the '088 reference to find a substitute for the structural filler materials listed in the '637 reference, since the '088 reference does no suggest that boron nitride can or should be "effective for improving rigidity, heat resistance and dimensional stability" of the polymer. The boron nitride has other properties and purposes and neither taught nor suggested as useful in the polymer of the '637 battery case. Thus the combination of the '637 and '088 reference are nothing more than hindsight reconstruction of the present invention which is not a proper form of rejection. Therefore, Applicants request the withdrawal of this rejection.

CONCLUSION

Claims 1-14 and 16-18 remain at issue. In view of the amendments to the claims and the discussion herein above, Applicants contend that the present Application is now in condition for allowance and earnestly request reexamination and early allowance thereof.

Should the Examiner have any comments or suggestions which would place the instant application in better condition for allowance, he is earnestly requested to contact the undersigned.

Respectfully submitted,

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